SOCIETY FOR APPLIED SPECTROSCOPY

Important Dates for SciX

Abstract Submission Deadlines
12 August: Deadline for Poster Abstracts

Registration Deadlines:
22 September: Early-bird Registration Deadline

Hotel Booking Deadline:
30 September: Last Day to Book Hotel

Don't miss out on the opportunity to be a part of the cutting-edge discussions and discoveries at SciX 2024! Mark your calendars and secure your spot today!

For more information, visit the SciX website and sign up for updates **here**.

Gloria Story, 2024 SAS President

Early Career Travel Support

The Early Career Interest Group (ECIG) is pleased to announce that it will be offering a travel grant to support the attendance of an early career scientist at SciX 2024 in Raleigh, NC.

To be considered for this travel grant, an applicant must meet the following criteria:

- Either an active member of SAS or have applied for membership at time of applying for travel grant
- Planning to present research at SciX 2024 that was completed as an early career scientist
- Completed your final degree at time of application and within the past ten years
- Complete the travel grant application process

Further details about the application process and the application deadline will be sent out to ECIG members by email.

Anthony Stender, Early Career Interest Group

Professional Societies and Education

In my last editorial regarding education [1], I described the role the professional societies have in

the education of spectroscopists. I would like to carry that theme further.

A problem that many spectroscopists encounter is the following — you are actually the only one in your company that is familiar with a particular spectroscopic technique. You might be the instrument user or the lab manager, but you are the resource that your colleagues go to when they have a question. But who do *you* go to?

You can go to the instrument vendor, but the people on the support team are there to tell you how to use the instrument, not how to run your experiment or to interpret the data. This is another place where professional societies play a role. You have the opportunity to contact society members who use the technique and may have encountered the question you have — they can help! These scientific peers have knowledge of the technique, may be in the same geographic area as you are, and can provide advice on how they addressed the problem. The SAS has a member directory where Society members can search for other members. So, if you met someone at a conference and can't find their contact information, the Society website can provide it. A similar directory exists at the Coblentz Society website.

But suppose you don't know someone who might know the answer? Well, the Coblentz Society has a solution for that too! There is a newly implemented discussion forum on the Coblentz website. You can post your question on the forum and a Society member who has experience in the area will be able to answer your question. If they can't directly answer the question, they can probably point you to the appropriate literature resources. Now you have a contact who is familiar with your problem and you might be able to go back to them for a more in-depth discussion. As we all know, these are the types of interactions that occur face to face at a conference, but in the new reality of reduced travel and corporate ideas that the internet and ChatGPT can answer all, you may not have that opportunity. So, this is another reason to take advantage of the benefits of society membership.

But back to in-person education, last month I discussed how in-person education is by far the most satisfying experience for both students and instructors. You can interact one-on-one with an instructor and get a custom answer to your specific questions. That experience will never go away.

Both the SAS and the Coblentz Society are committed to providing content in that format. The next opportunity students will have for this in-person instruction will be at SciX 2024 in Raleigh, North Carolina. The table below shows the technical short courses that will be offered during the conference.

Twenty-four technical courses will be offered; all but five are being sponsored and taught by SAS and/or Coblentz members! Some of these courses are aimed at novice spectroscopists mostly in academia, some to industrial users, and some to anyone who is using these techniques. You can find more information **here**.

List of technical short courses offered at SciX 2024

Course number
Course title
CSAS 101: Introduction to Infrared, Raman, and Near-Infrared Spectroscopy
CSAS 102: Searching Infrared and Raman Spectra
CSAS 103: Problems with FT-IR Spectra and How to Avoid Them
CSAS 104: How to Select, Configure, and Optimize a Raman Spectrometer for Your Application: From Theory to Practice
CSAS 105: Process Analytical Technology: Out of the Lab and into the Line
CSAS 107: Introduction to Quantitative Spectroscopy for Near-Infrared and Raman Instrumentation
SAS 109: Practical Guide to Atomic Absorption and Emission Spectroscopy

SAS 110: Introduction to ICP-MS: Fundamentals, Best Practices, and Tips and Tricks
CSAS 112: Optimizing Microspectroscopy with Microscopy
CSAS 113: Spectral Interpretation of Vibrational Spectra
CSAS 117: Laser Fundamentals for Spectroscopy
CSAS 118 : Technologies and Applications for Miniature Optical Spectrometers and Spectroscopic Sensors
SAS 121: Introduction to Data Analytics for the Analytical Chemist
SAS 122: LA-ICP-MS: Elemental Analysis of Incremental Tissues as an Indicator of Past Pollution Events
CSAS 124: What's in the Box – How do Spectrometers Work?
CSAS 129: Structural Analysis via Low-frequency Raman Spectroscopy: Theory to Practical Applications
CSAS130: Beyond the Beer-Lambert Approximation: Towards Evaluating Infrared Spectra Based on Wave Optics and Dispersion Theory
CSAS131: Current Topics in Laser Induced Breakdown Spectroscopy
SciX132: Introduction to Design of Experiments for Method Development
SAS133: Building Next-generation Gas Sensors with Unexpected Advantages Over Last-century Designs
CSAS134: Two-Dimensional Correlation Spectroscopy (2D-COS)
SciX 135: Statistics, Calibration Strategies, and Data Processing for Analytical Measurements
SciX 136: Sample Selection Design of Experiments (DOE) for Multivariate Calibration
SciX137: Hierarchical Modeling for Combining Process Data with Spectroscopy

(1) E. Miseo, *Applied Spectroscopy Practica.* 2023. *1* (2). A16
.
Ellen Miseo, 2024 SAS Secretary

Raman Spectroscopy: A Beacon of Hope in the Battle Against PFAS 'Forever Chemicals'

In the realm of environmental science, a grave and insidious threat lurks beneath the surface of our daily lives: per- and polyfluoroalkyl substances (PFAS), the notorious "forever chemicals." These PFAS pose a significant danger to both human health and ecological equilibrium, with pervasive and enduring toxic effects ranging from cancer to immune system disorders.

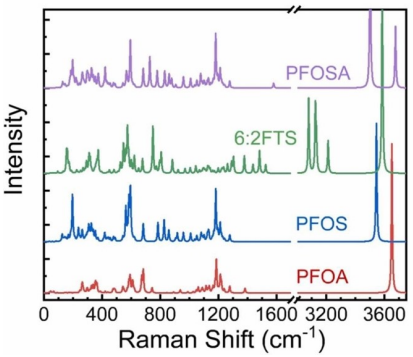
Amidst this environmental crisis, Raman spectroscopy emerges as a beacon of hope. This sophisticated analytical technique harnesses the power of light to unveil the hidden mysteries concealed within substances, making it an indispensable tool in the battle against PFAS contamination.

Consider the gravity of the situation: PFAS are omnipresent in our environment, contaminating water sources, soil, and even our bodies. They are found in everyday items such as non-stick cookware, stain-resistant fabrics, and firefighting foam, permeating every aspect of our lives.

Raman spectroscopy offers a rapid and precise solution to detect PFAS contamination with unparalleled accuracy. By shining a laser onto a material, Raman spectroscopy illuminates its molecular composition, allowing scientists to identify and characterize PFAS swiftly and accurately. This method requires minimal sample preparation, is non-invasive, and provides invaluable insights across diverse fields such as chemistry, biology, and materials science.

Furthermore, in the ongoing battle against PFAS contamination, Raman spectroscopy stands shoulder to shoulder with another formidable technique: surface-enhanced Raman spectroscopy (SERS). By leveraging plasmonics, SERS enhances the sensitivity of Raman signals by several orders of magnitude, enabling the detection of even trace amounts of PFAS. This heightened sensitivity, combined with the unique spectral signatures of PFAS molecules, allows for precise identification and characterization, even in complex sample matrices.

In a world besieged by environmental threats, Raman spectroscopy emerges as a beacon of innovation and resilience. By uncovering the hidden truths of our environment, it empowers us to confront the perils that surround us, safeguarding the health and well-being of current and future generations.



Raman spectra of PFAS compounds. Image adapted from Y. Chen, et al., J. Hazard. Mater. 2024. 465: 133260.

Alejandro De La Cadena Perez Gallardo, newsletter committee member

---

Current SAS Contact Information
Our phone number is: 518-313-1160

Our fax number is: 518-463-8656

Our general office email is: sasadmin@s-a-s.org
Our mailing address is:
230 Washington Avenue Extension
Suite 101
Albany, NY 12203

Our online services are at: **www.s-a-s.org**

Gloria Story, 2024 SAS President

FACEBOOK **LINKED IN** **Link**